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EXAMINER	
DIVECHA, NISHANT B	

ART UNIT	PAPER NUMBER
2466	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/563,219	TAKEDA ET AL.	
	Examiner	Art Unit	
	NISHANT B. DIVECHA	2466	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 July 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-11,14-21 and 24-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-11,14-21 and 24-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/06/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 1, 4-11, 14-21, 24-28 have been amended and claims 2-3, 12-13, 22-23 are cancelled.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 4-11, 14-21, 24-28 have been considered but are moot in view of the new ground(s) of rejection.

3. Rejections of claims 2, 5, 6, 12-18 are withdrawn in view of the amendments.

4. Rejection of claim 21 is maintained under 35 USC 112 since no amendment has been made to clear the 112 issue presented in previous office action. The arguments allegedly recite amending the claims but no amendment has been made.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regards claim 21, the claim first states "a mobile terminal or a mobile router" and then continues with a limitation stating "the mobile terminal and the mobile router". This is unclear due to the fact that applicant is first having a home agent connect to either a

mobile terminal or mobile router but then states that the home agent stores the address of both the mobile terminal and mobile router. This problem persists in the next limitation that partly states "received from the mobile terminal through the mobile router" which once again necessitates a need for both a mobile terminal and a mobile router while applicant has first called for either a mobile terminal or a mobile router but not both.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1, 4-6, 11, 14-16 and 20, 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA (Applicant admitted prior art, Applicant's Background Invention) in view of Bellwood et al (USP 6584567).

Regarding claim 1, AAPA discloses that a transport layer security is used between the nodes to provide secure communication therefore, suggesting providing a memory and CPU for execution of the TLS on terminal and HA or CN (home agent or the correspondent node) (see page 6, last paragraph). AAPA further discloses execution of the first and second process, terminating first and second security process for the received packet and wherein the first and second processes are executed on the same layer of said received packet (see page 2, last paragraph, discloses that TLS protocol is security protocol positioned at session layer for performing authentication and encryption, first and second process) but fails to disclose a terminal connected to a network and comprising: a transmission/reception part for sending and receiving a packet; a memory for storing programs to be executed by the CPU to execute processes on a packet.

However, Bellwood discloses a terminal connected to a network (see figure 1) and comprising: a transmission/reception part for sending and receiving a packet (see figure 4, discloses a terminal communication bidirectional, therefore sending and receiving packets); a memory for storing programs to be executed by the CPU to execute processes on a packet (see figure 1-2, discloses TLS, further see figure 4, discloses establishing secure session, i.e. the

terminal must have a processor to process data packet and memory to store such instructions to process secure connection).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the AAPA such that the security can achieved by first authenticating the communication followed by the encryption of the communication.

The motivation for doing so would be provide enhanced security for communication.

Regarding claim 11, AAPA discloses that a transport layer security is used between the nodes to provide secure communication therefore, suggesting providing a memory and CPU for execution of the TLS on terminal and HA or CN (home agent or the correspondent node) (see page 6, last paragraph). AAPA further discloses execution of the first and second process, terminating first and second security process for the received packet and wherein the first and second processes are executed on the same layer of said received packet (see page 2, last paragraph, discloses that TLS protocol is security protocol positioned at session layer for performing authentication and encryption, first and second process); a CPU and a memory for storing information on locations of the terminal (see page 1, starting from 5th paragraph-page 3, 2nd paragraph, discloses a home agent for maintaining the location of the terminal); but fails to disclose a communication system comprising a terminal and a server which is connected to a network wherein: the server comprises a transmission/reception part for sending and receiving a packet, a CPU and a memory for storing information on locations of the terminal; the terminal has a transmission/reception part for sending and receiving a packet.

Bellwood disclose a communication system comprising a terminal and a server (see figure 4, discloses server and terminal, client) which is connected to a network (see figure 1) wherein: the server comprises a transmission/reception part for sending and receiving a packet (see figure 4, having a server which sends and receive communications), the terminal has a transmission/reception part for sending and receiving a packet (see figure 4, discloses a client for receiving and sending communications).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the AAPA such that the security can achieved by first authenticating the communication followed by the encryption of the communication.

The motivation for doing so would be provide enhanced security for communication.

Regarding claim 20, AAPA discloses a home agent connected to a terminal or a router through a network and comprising:

an address memory for storing the address of the terminal or the router (see page 1, starting from 5th paragraph-page 3, 2nd paragraph, discloses a home agent for maintaining the location of the terminal); a transport layer security is used between the nodes to provide secure communication therefore, suggesting providing a memory and CPU for execution of the TLS on terminal and HA or CN (home agent or the correspondent node) (see page 6, last paragraph). AAPA further discloses execution of the first and second process, terminating first and second security process for the received packet and wherein the first and second processes are executed on the same layer of said received packet (see page 2, last paragraph, discloses that TLS protocol

is security protocol positioned at session layer for performing authentication and encryption, first and second process) but fails to explicitly disclose a transmission/reception part for sending and receiving a packet.

However, Bellwood discloses a client with a transmission/reception part for sending and receiving a packet complying with TLS (see figure 1 and 4).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the AAPA such that the security can achieved by first authenticating the communication followed by the encryption of the communication.

The motivation for doing so would be provide enhanced security for communication.

Regarding claim 4, 14, 24, AAPA discloses using TLS to provide encryption and authentication between the nodes in communication network but fails to explicitly disclose a terminal wherein the first and second processes are processes for decrypting results of encryption processes executed on the same layer of the received packet.

However, AAPA discloses encryption between the mobile nodes and HA, further suggesting decryption at those ends such that the data can be communicated to application layer and be communicated to user (see page 6, last paragraph, discloses encryption and authentication).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify to include decrypting the encrypted information such that the security can be provides and communications can be made between the end users.

Regarding claim 5, 15, 25, AAPA discloses a terminal wherein the first and second processes are the termination processes of IPSec executed on the same layer of the received packet (see page 29, third paragraph discloses IPSec as defined by IETF to include authentication and encryption functions, this is considered to be known in prior art as disclosed by applicant and published by IETF).

Regarding claim 6, 16, 26, AAPA discloses a terminal wherein the first and second processes are the termination processes of TLS performed on the same layer of the received packet (see page 6, last paragraph discloses TLS performed at session layer performing both authentication and encryption).

11. Claims 7-8, 17-18, 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Meushaw (USP 6922774).

Regarding claim 7, 17, 27, AAPA discloses a terminal wherein the memory further stores a program of a first operation system (see page 5-6, starting last paragraph on page 5, discloses a VM technology, first operation system being host OS) and a program of a second operation system executed on the first operation system (see page 5-6, starting last paragraph on page 5, discloses a VM technology, guest OS) but fails to explicitly disclose the first process is a process executed on the second operation system; and the second process is a process executed on the first operation system.

Meushaw (USP 6922774) discloses the first process is a process executed on the second operation system (see col. 4, lines 37-53, discloses that the encryption as per IPSec can be implemented by the VM). Further the reference discloses performing authentication of the connection, i.e. users connected to the network (see col. 4, lines 21-32, therefore since the VM is running on the host operating system, the second operation, authentication is being performed on top of VM which is on top of host OS or the first OS. Further, assuming the reference is silent on where the implementation can take place, it would be common sense to implement authentication on the host OS such that the before granting user access to one any resource, the user be authenticated, thereby the authentication mechanism residing on the host OS).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify to include performing encryption on the guest OS and performing authentication on the host OS as disclosed and suggested by Meushaw to the teachings of AAPA.

The motivation for doing so would be enable secure communication in virtual environment.

Regarding claim 8, 18, 28, AAPA discloses a terminal wherein the second operation system is executed on a virtual machine configured on the first operation system (see first paragraph on page 6, discloses guest OS).

12. Claims 9, 10, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Winget (USP 7275157).

Regarding claim 9, AAPA discloses a terminal wherein the network is also connected to a server for managing information on locations of the terminals (see page 1, starting from 5th paragraph-page 3, 2nd paragraph, discloses mobile node connected to the sever and further maintaining the COA for the terminal such that the data can be delivered) but fails to disclose the first and second processes handles a packet transmitted from the server to the terminal.

However, Winget (USP 7275157) discloses performing TLS between mobile node and server (see col. 2, lines 28- lines 46, discloses a mobile node, STA and server performing TLS).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify such that TLS security can be applied to mobile communications.

The motivation for doing so would be to provide secured communications.

Regarding claim 10, 19, AAPA discloses a terminal wherein: the terminal is a terminal provided for mobile IP functions (see page 1, starting from 5th paragraph-page 3, 2nd paragraph, discloses mobile IP terminal); the server is a server provided for said mobile IP functions (see page 1, starting from 5th paragraph-page 3, 2nd paragraph, discloses home agent); the terminal is a terminal functioning as a mobile node (see page 1, starting from 5th paragraph-page 3, 2nd paragraph, discloses the terminal to be mobile node); the server is a sever functioning as a home agent of the terminal (see page 1, starting from 5th paragraph-page 3, 2nd paragraph, discloses server as a home agent).

13. Claims 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Johansson (USP 7333482).

Regarding claim 21, AAPA discloses a home agent, the home agent connected to a mobile terminal or a mobile router wherein: the address memory further stores the address of the mobile terminal and the mobile router (see page 1, starting from 5th paragraph-page 3, 2nd paragraph, discloses a home agent maintaining the COA for the terminal); and the first and second processes are executed on a packet received from the mobile terminal though the mobile router (see page 6, last paragraph, discloses performing TLS) but fails to disclose implementing TLS on the Home agent.

However, Johansson (USP 7333482) discloses performing TLS at the home agent (see col. 20 , lines 52-65).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify to modify the home agent to include TLS on the home agent to provide security feature.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NISHANT B. DIVECHA whose telephone number is (571)270-3125. The examiner can normally be reached on Monday through Friday 1030 am to 6 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Ryman can be reached on (571) 272-3152. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. B. D./
Examiner, Art Unit 2466

/Jason E Mattis/
Primary Examiner, Art Unit 2461